

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/94003(DRS); 50-374/94003(DRS)

Dockets No. 50-373; 50-374

Licenses No. NPF-11; NPF-18

Licensee: Commonwealth Edison Company  
Executive Towers West III  
1400 Opus Place, Suite 300  
Downers Grove, IL 60515

Meeting Conducted: February 1, 1994

Meeting Location: Region III Office, Lisle, IL 60532

Type of Meeting: Enforcement Conference

Inspection Conducted: LaSalle Site, Marseilles, Illinois  
November 1 through January 5, 1994

Inspectors:

Z. Falevits  
Z. Falevits

2-10-94  
Date

R. Winter  
R. Winter

2/10/94  
Date

C. Vanderneit  
C. Vanderneit

2/10/94  
Date

T. Tella  
T. Tella

2/10/94  
Date

I. Yin  
I. Yin

2/10/94  
Date

Reviewed By:

Wayne D. Shafer  
Wayne D. Shafer, Chief  
Maintenance and Outage Section

2/10/94  
Date

Approved By:

Geoffrey C. Wright  
Geoffrey C. Wright, Chief  
Engineering Branch

2/10/94  
Date

Meeting Summary:

Enforcement Conference on February 1, 1994 (Reports No. 50-373/93031(DRS);  
50-374/93031(DRS); 50-373/93034(DRS); 50-374/93034(DRS); 50-373/93036(DRS);  
50-374/93036(DRS)).

Areas Discussed: Four apparent violations were discussed, along with  
corrective actions taken or proposed by the licensee. The apparent violations

concerned: (1a) failure to promptly identify and to take corrective action with regard to a 10 CFR Part 21 report on deteriorating greases in ABB HK Series circuit breakers operating mechanisms (1b) failure to test two safety/relief valves (SRVs) for a period greater than five years making the SRVs inoperable by Technical Specification (1c) failure to identify the root cause(s) and take corrective action to prevent repetitive failure of the secondary containment isolation (VR) dampers to close, (2) inadequate and failure to follow procedures, (3) failure to demonstrate by testing that a 3 second time delay setting on the RPS EPM assemblies' overvoltage (OV), undervoltage (UV), and underfrequency (UF) relays would perform its intended design function, (4) failure to assure that measuring and testing devices are properly calibrated to maintain accuracy within necessary limits.

## DETAILS

### 1.0 Persons Present at the Enforcement Conference

#### Commonwealth Edison Company

W. Murphy, Site Vice President  
D. Ray, Station Manager  
J. Gieseke, Site Engineering and Construction (SEC) Manager  
J. Miller, SEC - Plant Support Supervisor  
E. Martin, Quality Verification Director  
J. Lockwood, Regulatory Assurance Supervisor  
J. Burns, Regulatory Performance Administrator  
S. Trubath, Counselor - CECO

#### U. S. Nuclear Regulatory Commission (NRC)

J. Martin, Regional Administrator  
H. Miller, Deputy Regional Administrator  
G. Grant, Director, Division of Reactor Safety  
G. Wright, Chief, Engineering Branch  
W. Shafer, Chief, Maintenance and Outage Section  
B. Burgess, Chief, Operational Programs Section  
B. Clayton, Chief, DRP Branch 1  
R. Hague, Chief, DRP Section 1C  
R. DeFayette, Director, EICS  
P. Pelke, Enforcement Specialist  
M. Weber, Enforcement Staff  
B. Berson, Regional Counsel  
D. Hills, Senior Resident Inspector  
Z. Falevits, Reactor Inspector  
R. Winter, Reactor Inspector  
T. Tella, Reactor Inspector  
C. Vanderniet, Reactor Inspector  
E. Schweibinz, Reactor Inspector  
A. Gody Jr., Program Manager, NRR

### 2.0 Enforcement Conference

An Enforcement Conference was held in NRC Region III Office on February 1, 1994. This conference was conducted as a result of the preliminary findings of three inspections conducted, November 1993 - January, 1994, in which apparent violations of NRC regulations were identified. Inspection findings were documented in Inspection Reports No. 50-373/93031(DRS) and No.50-374/93031(DRS); 50-373/93034(DRS) and No.50-374/93034(DRS); 50-373/93036(DRS) and No. 50-374/93036(DRS)), transmitted to the licensee by three separate letters dated, December 23, 1993 and January 25, 1994.

The purpose of this conference was to (1) discuss the apparent violations, their causes, and the licensee's corrective actions; (2) determine if there

were any escalating or mitigating circumstances; and (3) obtain any information which would help determine the appropriate enforcement action.

During this Enforcement Conference, the following apparent violations were presented by the NRC:

- (1a) failure to promptly identify and to take corrective action with regard to a 10 CFR Part 21 report on deteriorating greases in ABB HK Series circuit breakers operating mechanisms
- (1b) failure to test two safety/relief valves (SRVs) for a period greater than five years making the SRVs inoperable by Technical Specification
- (1c) failure to identify the root cause(s) and take corrective action to prevent repetitive failure of the secondary containment isolation (VR) dampers to close,
- (2) inadequate and failure to follow procedures,
- (3) failure to demonstrate by testing that a 3 second time delay setting on the RPS EPM assemblies' overvoltage (OV), undervoltage (UV), and underfrequency (UF) relays would perform its intended design function,
- (4) failure to assure that measuring and testing devices are properly calibrated to maintain accuracy within necessary limits.

During the conference the licensee did not contest any of the apparent violations presented in the conference or the associated inspection reports and was in agreement with the NRC's understanding of the areas of concern, which were outlined in the NRC handout provided at the conference. The licensee's representatives discussed the apparent corrective action violations (items (1a), (1b) and (1c) above) and outlined potential root causes and corrective actions taken and planned. The licensee's handout included discussion of the root causes and proposed corrective actions for the other apparent violations.

At the conclusion of the conference, the licensee was informed that they would be notified in the near future of the final enforcement action.

Attachment:

- 1. NRC handout
- 2. Commonwealth Edison Company handout

# U.S. NRC REGION III

## LASALLE COUNTY STATION ENFORCEMENT CONFERENCE

February 1, 1994

10:00 A.M. (CST)

E A 93-300

REPORT NUMBERS 50-373/93031 AND 50-374/93031

50-373/93034 AND 50-374/93034

50-373/93036 AND 50-374/93036

REGION III OFFICE

801 WARRENVILLE ROAD

LISLE, ILLINOIS

# LASALLE COUNTY STATION

## ENFORCEMENT CONFERENCE

### Agenda

#### INTRODUCTION AND OPENING REMARKS:

*Geoffery E. Grant, Director, Division of Reactor Safety (DRS)*

#### NRC ENFORCEMENT POLICY:

*Robert W. DeFayette, Director, Enforcement and Investigation  
Coordination Staff*

#### SUMMARY OF APPARENT VIOLATIONS:

*Wayne D. Shafer, Chief, Maintenance and Outage Section (DRS)*

*Bruce Burgess, Chief, Operational Programs Section (DRS)*

#### NRC SUMMARY:

*Geoffery C. Wright, Chief, Engineering Branch (DRS)*

#### LICENSEE PRESENTATION AND DISCUSSION

#### NRC CLOSING REMARKS:

*Geoffery E. Grant, Director, Division of Reactor Safety (DRS)*

*Jack B. Martin, Administrator, Region III*

# MAJOR NRC CONCERNS

## LACK of EFFECTIVE CORRECTIVE ACTION and SELF ASSESSMENT ACTIVITIES

PROBLEM REPORTING

ROOT CAUSE EVALUATION

MANAGEMENT ASSESSMENT & ANALYSIS

OVERSIGHT

1.

## APPARENT VIOLATION

10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action shall be documented and reported to the appropriate levels of management.

## CONTRARY TO THE ABOVE

Corrective actions with regard to a 10 CFR Part 21 report on deteriorating grease in ABB HK Series circuit breakers operating mechanisms were neither promptly identified or corrected.

The apparent violations discussed in this enforcement conference are subject to further review and may be subject to change prior to any resulting enforcement action.



2.

## APPARENT VIOLATION

10 CFR 50, Appendix B, Criterion XVI, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

## CONTRARY TO THE ABOVE

From 1984 to December 21, 1993, the licensee's engineers failed to identify the root cause(s) of the repetitive failures of the secondary isolation reactor building ventilation (VR) system dampers to fully close on demand during plant operation and surveillance testing. In addition, management failed to adopt numerous proposed corrective actions to resolve this concern. Consequently, prompt corrective action to resolve the design and maintenance damper problems and preclude recurrence was not accomplished.

The apparent violations discussed in this enforcement conference are subject to further review and may be subject to change prior to any resulting enforcement action.

3.

### APPARENT VIOLATION

10 CFR 50, Appendix B, Criterion XI, requires, in part, that a test program be established to assure that all testing required to demonstrate that components will perform in accordance with test procedures which incorporate the requirements and acceptance limits contained in the applicable design drawings. Test results must be documented and evaluated to assure that test requirements have been satisfied.

### CONTRARY TO THE ABOVE

WR L54217, dated November 1985, specified the test requirements to verify that the 3.0 second time delay setting change performed on the Unit 1 RPS EPM assembly's overvoltage, undervoltage and underfrequency relays, does not cause a RPS bus trip when a large pump is started (i.e. RR pump). The operating engineer subsequently cancelled the test on June 3, 1986. Consequently, the test was not performed to ensure that the RPS does not trip when it is fed from the alternate source and a large load is started. On November 29, 1993 the RPS bus tripped when the operator started the RR pump while the RPS bus was fed by an alternate power supply. Recovery actions resulted in a full scram.

The apparent violations discussed in this enforcement conference are subject to further review and may be subject to change prior to any resulting enforcement action.

4.

## APPARENT VIOLATION

10 CFR 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished according to the instructions, procedures or drawings.

## CONTRARY TO THE ABOVE

- a. Prior to December 1993, Surveillance Procedures LES-GM-300, "Unit 1 RPS Electrical Power Monitoring (EPM) Assembly Calibration by OAD", dated February 8, 1993 and LES-GM-400, "Unit 2 RPS Electrical Power Monitoring (EPM) Assembly Calibration by OAD", dated February 8, 1993 used by OAD to test, monitor and calibrate RPS (Technical Specification) voltage and frequency values were inadequate. The procedures failed to specify the test method to be used and did not require monitoring or recording the as found and as left time delay trip settings associated with the RPS EPM overvoltage, undervoltage and underfrequency.
- b. Procedure LAP-220-5, "Equipment Operability Determination," Revision 2, dated July 8, 1993, Step F.8, requires, if a previous evaluation for a specific component does not exist, Shift Supervision to determine whether or not the component and its related system are operable based on the evaluation and document on Attachment A.

On November 29, 1993, following the failure of secondary containment isolation damper 1VR04YA to fully close, Shift Supervision did not determine whether or not the damper and its related system were operable based on an evaluation and did not document the evaluation on Attachment A. A previous evaluation for this condition did not exist.

- c. As of December 21, 1993, procedure LAP-220-4, "Degraded Equipment Log", dated May 11, 1993, was inadequate in its requirements to document/record degraded components and was weak in defining performance standards. On November 29, 1993 the operator failed to make an entry into the Degraded Equipment Log when 1VR04YA failed to fully close.
- d. As of December 21, 1993, Operating Procedures: LOP-RR-04, "Preparation and startup of Reactor Recirculation Pumps in Slow Speed", dated June 10, 1993, LOP-RR-05, "Changing Reactor Recirc Pump Speed from Slow to Fast Speed", dated May 28, 1993, and LOP-RR-06, "Restart of Tripped Reactor Recirc", dated March 4, 1992, failed to have a warning to the operator that whenever the RPS bus was fed from its alternate (dirty) Power supply and a large pump such as a Reactor Recirculation pump was started, the RPS bus would trip on undervoltage and result in a half scram. This scenario occurred at LaSalle in 1983, 1984 and again on November 29, 1993. In 1984 and 1993 additional problem resulted in a full scram.

- e. The instructions provided by corporate engineering in the Relay Setting Order (RSO) sheets used by Operational Analysis Department (OAD) to set the RPS EPM overvoltage, undervoltage and underfrequency time delay trip settings were inadequate in that they specified 3.0 seconds with no tolerance allowed. A value of exactly three (3.0) seconds was not practically obtainable. Consequently, the as found trip settings were observed to be as high as 4.69 seconds and most were above 3.0 seconds.

The apparent violations discussed in this enforcement conference are subject to further review and may be subject to change prior to any resulting enforcement action.

5.

## APPARENT VIOLATION

10 CFR 50, Appendix B, Criterion XII, requires, in part, that measures be established to assure that instruments and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits.

## CONTRARY TO THE ABOVE

Prior to December 16, 1993 the licensee Operational Analysis Department (OAD) engineer had been using a wrist watch to measure and calibrate the trip time delay setting values on the RPS Electrical Power Monitoring (EPM) assembly overvoltage, undervoltage and underfrequency relays. This practice was also known to OAD supervisors and had been going on since 1986. The inspectors determined that a calibrated stop watch was available from the shift supervisor.

The apparent violations discussed in this enforcement conference are subject to further review and may be subject to change prior to any resulting enforcement action.

6.

## APPARENT VIOLATION

Technical Specification 4.05 requires, in part, that inservice testing of ASME Code Class 1, 2, 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Code.

Subsection IWV-3511 of the ASME Code requires that valves shall be tested at the end of each time period as defined in Table IWV-3510-1. Note (1) of Table IWV-3510-1 states that at each refueling all valves which have not been tested during the preceding 5 year period shall be tested.

Technical Specification 3.4.2 requires, in part, that the safety valve function of 17 of 18 reactor coolant system safety/relief valves shall be Operable in Operational Conditions 1, 2, and 3. Technical Specification 4.03 states that failure to perform a Surveillance Requirement within the specified time interval shall constitute a failure to meet the Operability requirements for a Limiting Condition for Operation.

## CONTRARY TO THE ABOVE

The licensee completed the fifth refuel outage for Unit 1 on (date) and proceeded to Operational Condition 1 with two inoperable safety/relief valves (SRVs). Specifically, SRVs 1B21-F013B and 1B21-F013J had not been tested since the first refuel outage which ended in October 1986, a period greater than five years.

The apparent violations discussed in this enforcement conference are subject to further review and may be subject to change prior to any resulting enforcement action.

FEBRUARY 1, 1994

LASALLE ENFORCEMENT CONFERENCE

CORRECTIVE ACTIONS PROCESS

AGENDA

INTRODUCTION

W. MURPHY

ISSUES

J. MILLER

CORRECTIVE ACTION PROCESS

J. LOCKWOOD

LASALLE - FUTURE STEPS

D. RAY

CLOSING

W. MURPHY



# ITE BREAKER

## FACTUAL AGREEMENT

### PERFORMANCE OF CORRECTIVE ACTION PROCESS

- FAILURES OF CORRECTIVE ACTION PROCESS IMPLEMENTATION
  - Invalid inspection procedure response to Part 21
  - Failure to act on contractor information
- INADEQUATE RESPONSE TO HARDENED GREASE
  - Troubleshooting Response Time Testing failures, breaker sent to manufacturer
  - Manufacturer report hardened grease, missed implications
  - Slow to recognize Part 21 applicability
- ACTIONS UPON DISCOVERY
  - Operability Evaluation, Refurbishment Program
  - All breakers except 7 refurbished

## CORRECTIVE ACTIONS TO PREVENT RECURRENCE

- COMPLETENESS AND QUALITY OF INITIAL CORRECTIVE ACTIONS
  - NTS/IRP use for Industry Experience, especially Part 21
  - Component Expert Reviews
  - BDT Action Plans for Communication, Interdependence
- RECOGNITION OF NEED FOR ESCALATION OF ACTION
  - Revise closure checklist for Event Reports
  - Ability to review/trend IRP database
  - Effectiveness Reviews

## SAFETY CONSEQUENCES

- ALTHOUGH EVALUATIONS VERIFIED SYSTEM OPERABILITY, THE POTENTIAL SAFETY SIGNIFICANCE OF THIS ISSUE WAS A PRIMARY CONCERN OF LASALLE MANAGEMENT.

# SRV MISSED SURVEILLANCE

## MISSED SURVEILLANCE ON 2 SRV'S

### ■ CAUSE

- Incorrect interpretation of ASME Table
- Clarify formal test program in place, but it did not clearly track SRV's by Serial Number

## CORRECTIVE ACTIONS ISSUES

### ■ QUALITY OF RECORDS, ABILITY TO MONITOR PERFORMANCE

- Inspector queries required documentation search, compilation
- Development of trending, monitoring tools

### ■ SRV SETPOINT DRIFT

- Data comparable to Industry/Crosby valves
- Positive Drift < ASME OM1 (improved) criteria of +3%
- Negative drift caused by leakage

### ■ SRV LEAKAGE

- Industry issue, LaSalle shared concerns over effects has been pursuing resolution
- Specified Wyle As-Left criteria =0 leakage
- Soft-close procedure avoids steam cut challenge

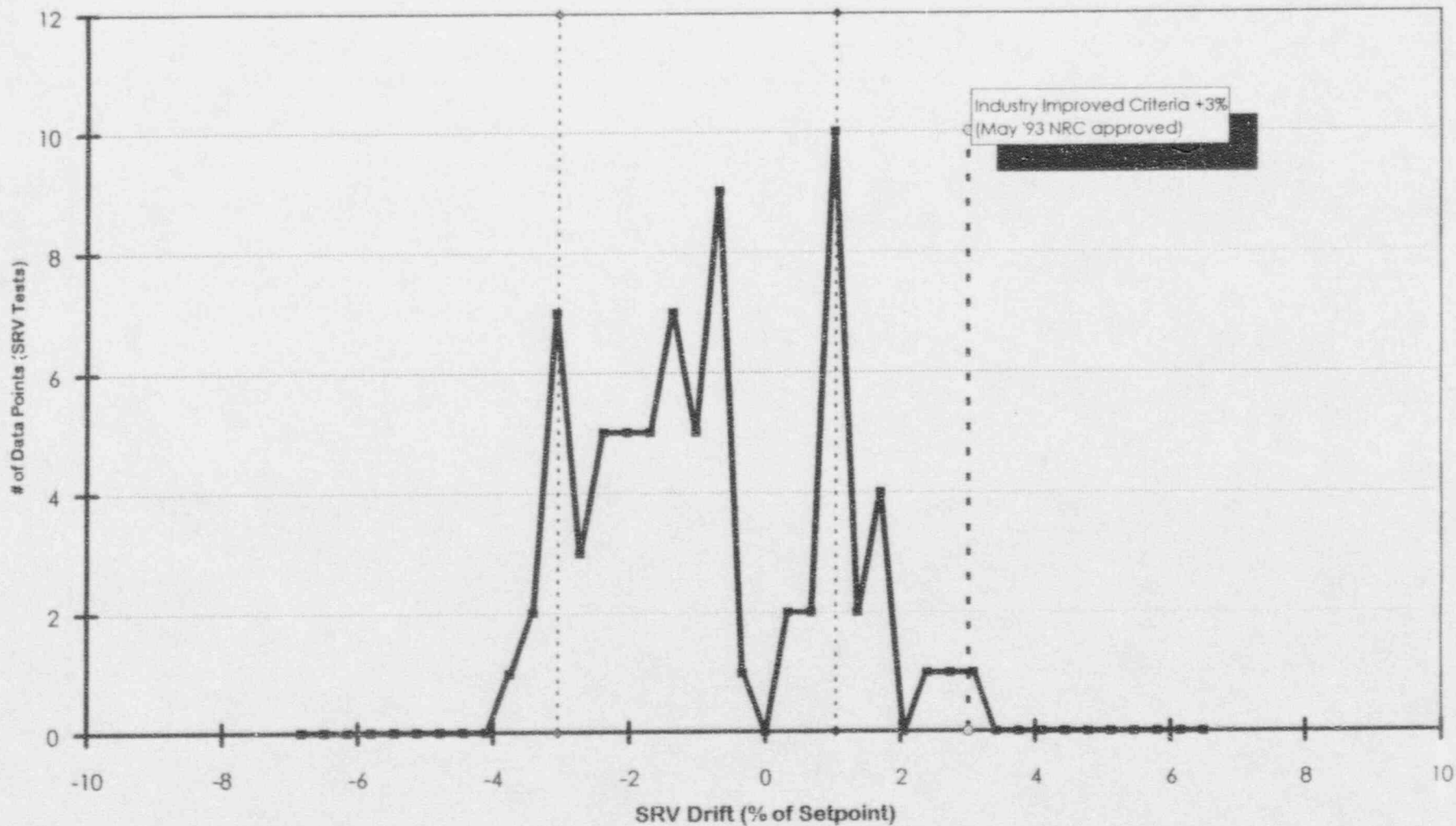
## ACTIONS TO PREVENT RECURRENCE

- SRV HISTORICAL FILE/TRENDING TOOLS DEVELOPED
- INTERNAL PROGRAM REVIEWS INITIATED:
  - ASME Pressure Testing
  - Check Valve Program
- SOFT CLOSURE TEST PROCEDURE

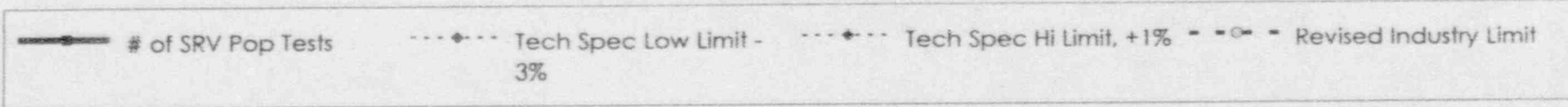
## SAFETY CONSEQUENCES

- SAFETY SETPOINT DRIFT SIGNIFICANTLY BELOW POTENTIAL IMPACT, AND DOES NOT AFFECT RELIEF MODE FUNCTION
- ADMINISTRATIVE CONTROL FOR LPCI INOP IN POOL COOLING MODE
- WATER HAMMER ANALYSIS FOR INJECTION PIPING
- SAFETY IMPACT MINIMAL

### LaSalle Station SRV Setpoint Performance Frequency Distribution



Industry Improved Criteria +3%  
(May '93 NRC approved)



# REACTOR BUILDING VENTILATION DAMPER FAILURES

## FACTUAL AGREEMENT

### PERFORMANCE OF CORRECTIVE ACTION PROCESS

- DETERMINATION OF ROOT CAUSE
  - Root Cause evaluation not performed until January 1994
  - Significant "troubleshooting", attempts at incremental improvements
  - Hardware failures
- SELECTION OF CORRECTIVE ACTIONS
  - Little action on vendor suggestions
  - No escalation of efforts from lack of progress
- ISSUE PRIORITIZATION, LACK OF CLOSURE
  - Stuck at short-term, "living with" condition
  - System Engineer turnovers

## ACTIONS TO PREVENT RECURRENCE

- ROOT CAUSE EVALUATION INITIATED JANUARY 1994
- REPAIR 1VR04YA IN NEXT UNIT 1 REFUEL OUTAGE
- INTERIM SUPPLEMENT TO STAFF WITH VENTILATION ENGINEER

## SAFETY CONSEQUENCES

- LOW SAFETY SIGNIFICANCE. DAMPERS HAVE SHOWN RELIABLE "ONE-AT-A-TIME" OPERATION. CLOSURE % IS NOT SIGNIFICANT CHALLENGE TO FUNCTIONAL REQUIREMENTS.

**CORRECTIVE ACTIONS PROCESS**

<p><b>IDENTIFICATION STEP</b></p> <ul style="list-style-type: none"> <li>. Poor communication of IRP</li> <li>. Unclear threshold levels</li> <li>. Avoidance of increased work load</li> <li>. Ineffective trending</li> </ul>	<p><b>FIX</b></p> <ul style="list-style-type: none"> <li>. Educate and communicate expectations and followup by seeking confirmatory feedback</li> <li>. Clarify guidance for thresholds and trending</li> <li>. Clarify ownership and accountability</li> </ul>
<p><b>ROOT CAUSE DETERMINATION STEP</b></p> <ul style="list-style-type: none"> <li>. Prior strategy proved ineffective</li> <li>. Addressed symptoms</li> <li>. Emergent problems delayed long term resolutions</li> <li>. Poor prioritization system</li> <li>. System engineer turnover</li> <li>. Poor documentation of issues</li> </ul>	<p><b>FIX</b></p> <ul style="list-style-type: none"> <li>. Dedicated, experienced root cause analysis group</li> <li>. Clarify expectations and ownership -- Accountability</li> </ul>
<p><b>CORRECTIVE ACTION DEVELOPMENT STEP</b></p> <ul style="list-style-type: none"> <li>. Lack of issue accountability &amp; ownership</li> <li>. Poor documentation and justification of alternatives</li> <li>. Poor management feedback</li> </ul>	<p><b>FIX</b></p> <ul style="list-style-type: none"> <li>. Define roles and responsibilities</li> <li>. Clarify expectations and ownership -- Accountability</li> <li>. Process ensures correct discipline involvement to review</li> </ul>
<p><b>CORRECTIVE ACTION IMPLEMENTATION STEP</b></p> <ul style="list-style-type: none"> <li>. C/As not always accepted</li> <li>. Followup on C/As poor</li> <li>. Resources not allocated</li> </ul>	<p><b>FIX</b></p> <ul style="list-style-type: none"> <li>. BDT action plan addresses C/A closure process</li> <li>. Improve tracking</li> <li>. Address backlog</li> <li>. Clarify expectations and ownership -- Accountability</li> </ul>
<p><b>CORRECTIVE ACTION FOLLOWUP STEP</b></p> <ul style="list-style-type: none"> <li>. No formal followup process</li> <li>. No formal effectiveness review</li> <li>. No accountability enforced</li> </ul>	<p><b>FIX</b></p> <ul style="list-style-type: none"> <li>. Establish effectiveness review process</li> <li>. Clarify expectations and ownership -- Accountability</li> <li>. Establish review frequency</li> </ul>
<p><b>SELF ASSESSMENT</b></p> <ul style="list-style-type: none"> <li>. Reliance on Corporate Oversight</li> <li>. No formal self assessment process</li> </ul>	<p><b>FIX</b></p> <ul style="list-style-type: none"> <li>. Develop &amp; perform Self Assessment process</li> <li>. Implement IQE</li> <li>. Clarify expectations and ownership -- Accountability</li> <li>. Followup on program</li> </ul>



## VIOLATIONS

NRC INSPECTION REPORT 50-373(374)/93031, MAINTENANCE PERFORMANCE INSPECTION

■ POTENTIAL VIOLATION OF CRITERION XVI, CORRECTIVE ACTION [373(374)/93031-02]

- SPECIFIC ISSUE: Hardened grease in safety related breakers.
- ROOT CAUSE: Inadequate technical expertise applied.
- CORRECTIVE ACTION: All affected safety-related breakers have been rebuilt except 5 breakers on Unit 1 which will be completed in the refuel outage scheduled to begin March 18, 1994.
- CORRECTIVE ACTION TO PREVENT RECURRENCE:
  - Completeness and quality of initial corrective actions:
    - NTS/IRP use for Industry Experience, especially Part 21
    - Component Expert Reviews
    - BDT Action Plans for Communication, Interdependence
  - Recognition of need for escalation of action:
    - Revise closure checklist for Event Reports
    - Ability to review/trend IRP database
    - Effectiveness Reviews
- SAFETY SIGNIFICANCE: Although evaluation verified system operability, the potential safety significance of this issue was a primary concern of LaSalle management.

NRC INSPECTION REPORT FO-373(374)/93036, ELECTRICAL AND I&C  
MODIFICATION INSPECTION

■ POTENTIAL VIOLATION OF CRITERION XVI, CORRECTIVE ACTION  
[373(374)/93036-01]

- SPECIFIC ISSUE: Failure to promptly identify the root causes of the failure of the VR dampers, and to take measures to prevent recurrence.
- ROOT CAUSE: Poor implementation of the corrective action program.
- CORRECTIVE ACTION: Damper alignment to reduce forces on diaphragm. Possible spring force design change for increased margin.  
  
Additional focus is being accomplished by supplementing the system engineer with staff help.
- CORRECTIVE ACTION TO PREVENT RECURRENCE: Root cause evaluation completed January 1994. Repair 1VR04YA in next Unit 1 Refuel Outage. Interim supplement to staff with ventilation engineer.
- SAFETY SIGNIFICANCE: Low safety significance. Dampers have shown reliable "one-at-a-time" operation. Closure § is not significant challenge to functional requirements.

■ POTENTIAL VIOLATION OF CRITERION XI, TEST CONTROL  
[373(374)/93036-02]

- SPECIFIC ISSUE: Cancellation of testing requirements for RPS EPMA time delay installation.
- ROOT CAUSE: This was done in 1986 under a Work Request (WR). The current design process would not have allowed this to occur. Today, the installation of the time delay would be performed as a design change under LaSalle Administrative Procedure LAP-1300-9, Setpoint Changes. We agree that testing of the RPS EPMA time delays was cancelled by the Operating Engineer (OE). Practices are that OEs assign and can delete testing requirements in WR packages. We have been unable to recreate specific reasons why the test requirements were waived since this occurred in 1986.
- CORRECTIVE ACTION: Special Tests and operability evaluation on component loads verified that the EPMA's are operable with a time delay of up to 6 seconds.
- CORRECTIVE ACTION TO PREVENT RECURRENCE: The controls for testing requirements in design changes are included in LaSalle Administrative Procedure LAP-1300-9, Setpoint Changes. This procedure requires engineering involvement in changing test requirements. CECO Setpoint Control program is being implemented. First phase (Instrument Database) is fully implemented at several CECO sites, and will be turned over to LSCS site prior to May '94. The Electrical Devices phase will start in early 1994 with Relaying (RSO sheets) and fuses as the first area of focus. Zion station is the lead site for the Electrical Devices phase.
- SAFETY SIGNIFICANCE: The safety significance was minimal. Evaluation and testing verified system loads capable of longer degraded times than worst case AS-FOUND delays. EPMA time delay is equipment protection function, and does not affect NSSS actuation performance.

■ POTENTIAL VIOLATION OF CRITERION V, PROCEDURES  
[373(374)/93036-03]

- SPECIFIC ISSUE #1: LES-GM-300 AND LES-GM-400 [373(374)/93036-03A], failure to require monitoring and recording of "As Found"/"As Left" data.
- ROOT CAUSE: The procedures were originally written to ensure the Technical Specification surveillance requirements of undervoltage, overvoltage and underfrequency were met, but did not include testing of the time delays.
- CORRECTIVE ACTION: A special test procedure was used to measure and set the time delays for the EPMAs. All are within the SAR specified values at this time.
- CORRECTIVE ACTION TO PREVENT RECURRENCE: LES-GM-300 and LES-GM-400 are currently being revised to include testing of the time delays.  
  
This is a design process change, and the design process includes all applicable procedure revisions.
- SAFETY SIGNIFICANCE: The safety significance was minimal. Evaluation and testing verified system loads capable of longer degraded times than worst case AS-FOUND delays. EPMA time delay is equipment protection function, and does not affect NSSS actuation performance.
- SPECIFIC ISSUE #2: In 1986, LOP-RR-04, 05 AND 06 [373(374)/93036-03B] did not include warnings about potential for trips of the Alternate RPS bus feed when starting large pumps.
- ROOT CAUSE: Cancelled a WR test without establishing a compensatory corrective action or monitoring process.
- CORRECTIVE ACTION: LOP-RR-04, LOP-RR-05 and LOP-RR-06 have been revised and now contain warnings to the operators about the potential for a trip of the Alternate RPS bus feed when starting the RR pumps.

- CORRECTIVE ACTION TO PREVENT RECURRENCE: No further actions are required.
- SAFETY SIGNIFICANCE: The safety significance was minimal. The effect was undesirable system actuations, but in all cases the safety response of the system actuations was "fail safe" and not affected. Incremental use of EQ lifetime for steam tunnel components is small, and accounted for in EQ program. Existing frequency of component changeout for EQ lifetime bounds this increment, so there was no effect on EQ.
- SPECIFIC ISSUE #3: LAP-220-4 AND LAP-220-5 [373(374)/93036-03C] were not followed when the 1VR04YA damper failed to close.
- ROOT CAUSE: Individual involved acted on an assumption (WR existed for the damper), and failed to follow through with verification that a WR or DEL entry existed.

Difference between Operability Evaluation and Surveillance Evaluation regarding purpose and application was not clear.
- CORRECTIVE ACTION: Individual counselled on expectation for procedure adherence, and the need for follow through.
- CORRECTIVE ACTION TO PREVENT RECURRENCE: A review will be done to assess the purpose and proper application of Operability and Surveillance Evaluations. Procedure revisions and training will follow.
- SAFETY SIGNIFICANCE: Safety significance was minimal. The individual verified Technical Specification compliance by observing the redundant damper was closed. Failure of the damper to indicate full closure was documented in the Problem Identification Form (PIF) for the overall RPS Bus trip event.
- SPECIFIC ISSUE #4: RELAY SETTING ORDERS [373(374)/93036-03D] did not specify a tolerance for

setting the time delay.

- **ROOT CAUSE:** Relay Setting Orders (RSO) are system wide documents (Transmission, Distribution, and Generation Stations). Until relatively recently, RSOs did not include tolerances. OAD has developed a tolerance document which provides tolerances for most relays. RSOs issued today either specify the tolerance or default to the generic tolerances document. The real deficiency was in the procedures that calibrated the Undervoltage, Overvoltage and Underfrequency trips (LES-GM-300 and LES-GM-400). Had the time delays been included in the procedure, tolerances would have been specified as required by LAP-820-1, Attachment E, Step 32.
- **CORRECTIVE ACTION:** A special test procedure was used to measure the time delays for the EPMA time delays. This procedure specified the time delays be set at 2.5  $\pm 0.2$  seconds.
- **CORRECTIVE ACTION TO PREVENT RECURRENCE:** LES-GM-300 and LES-GM-400 are currently being revised to include testing of the time delays with acceptable tolerances provided.
- **SAFETY SIGNIFICANCE:** Operability Assessment concluded as minimal.
- **POTENTIAL VIOLATION OF CRITERION XII, CONTROL OF MEASURING AND TEST EQUIPMENT [373(374)/93036-04]**
  - **SPECIFIC ISSUE:** Operational Analysis Department (OAD) did not utilize calibrated instrument in measuring RPS EPMA time delays.
  - **ROOT CAUSE:** LES-GM-300 and 400 were inadequate in that they did not require testing the time delays. Measurements taken in accordance with these procedures are done with calibrated or certified test equipment.
  - **CORRECTIVE ACTION:** A special test procedure was used to measure the time delays for the EPMA time delays. This procedure specified

NRC INSPECTION REPORT 50-373(374)/93040, MECHANICAL AND  
STRUCTURAL MODIFICATION INSPECTION

■ POTENTIAL VIOLATION OF CRITERION XI, TEST CONTROL  
[373(374)/93040-01]

- SPECIFIC ISSUE: Incorrect surveillance frequency was in the program for ensuring that SRVs are tested at the required intervals. This led to a Technical Specification violation.
- ROOT CAUSE: Incorrect interpretation of ASME Section XI test frequency requirements.
- CORRECTIVE ACTION: Both SRVs have been replaced with tested valves during the January 1994 Unit 1 outage.
- CORRECTIVE ACTION TO PREVENT RECURRENCE: Surveillance procedure will be changed to specify correct frequency interpretation by 3/18/94.

SRVs have been added to Station General Surveillance Program (GSRV) by serial number to ensure independent verification of compliance.

- SAFETY SIGNIFICANCE: Minimal physical significance. Issue is compliance, not equipment condition. Safety Evaluation verified that worst case effects (complete failure of both affected SRVs) cause minimal (<10 psig) increase in peak Rx Pressure, and no reduction in Margin of Safety.

This issue affects only the Safety Mode of actuation, with no effect on relief mode

the time delays be set at 2.5  $\pm$ 0.2 seconds.

- CORRECTIVE ACTION TO PREVENT RECURRENCE: LES-GM-300 and LES-GM-400 are currently being revised to include testing of the time delays with appropriate equipment.
- SAFETY SIGNIFICANCE: Operability Assessment concluded as minimal.